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**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY**

November 22, 1996

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington D.C. 20554**

**In the Matter of)
Advanced Television Systems) MM Docket No. 87-268
and Their Impact upon the)
Existing Television Broadcast Service)**

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**COMMENTS OF:
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This exhibit has been prepared by Ralph E. Evans III, of Evans Associates Consulting TeleCommunications Engineers in Thiensville, Wisconsin, on behalf of VCY America, licensee of TV stations WVCY in Milwaukee, Wisconsin and WSCO in Suring, Wisconsin. This statement is in response to the FCC's Sixth Further Notice of Proposed Rulemaking (MM Docket 87-268) which addresses the matter of Advanced Television Systems and their impact upon the existing broadcasting service. Evans Associates has been retained by VCY America to assess the effect the proposed migration to digital television would have upon the industry as a whole, and the VCY America television properties in particular. Accordingly, this exhibit has been prepared and submitted to the FCC as VCY America's response in the above captioned proceeding.

Background

VCY America has a long history of responsible and effective stewardship with respect to the public spectrum resources represented by its radio and television properties. VCY America is currently the licensee of the following television facilities:

CALL	CHANNEL	HAAT (m)	ERP (kw)	CITY	STATE
WVCY	30	293	1070	Milwaukee	WI
WSCO	14	190	200	Suring	WI
WSCO (CP)	14	201	1000	Suring	WI

As is evident from this tabulation, WSCO has a construction permit in hand to improve facilities; the new station is due to be on the air by February, 1997.

VCY America welcomes the arrival of the Advanced Digital Television Service, which will enable both improved quality pictures and simultaneous multi-casting. VCY America agrees that both of these improvements are necessary in order to allow the over-the-air free and educational services to compete with other entertainment mediums in each of the unique television markets in the U.S. and Puerto Rico. VCY America is, however, understandably concerned that the migration to the advanced television service proceed in a manner which is non-disruptive, protects the public investment in free television service, and uses only the resources which are required to form a proper and robust nationwide infrastructure. In this spirit, then, these comments in response to the *Notice* are offered.

VCY America DTV Assignments

The following allocations have been made to the VCY America affiliated stations as part of the *Sixth Notice*:

CALL	NTSC Ch	FCC DTV Ch	FCC ERP (kw)	MST DTV Ch	MST DTV ERP (kw)
WVCY	30	22	50	28	21.2
WSCO	14	21	50	21	3.0

This table reflects a number of issues of concern to all broadcasters, and all viewers of free TV as outlined subsequently. VCY America finds these extremely low power levels to be unacceptable, since they neither reflect the realities of the individual market nor, in the case of the Suring channel, do they take the outstanding construction permit into account.

Summary of Issues, and Principles of Agreement

Comments on a variety of global issues were requested by the *Notice*, some of which are addressed by this exhibit. Other issues have arisen as a result of the Broadcasting Industry's unified consensus effort known as the *Broadcaster's Caucus*, jointly sponsored by the National Association of Broadcasters and the Public Broadcasting Service. With the assistance of the *Association of Maximum Service Telecasters*, the Broadcaster's Caucus has adopted a position on many of the issues raised in the *Notice*, as well as an alternative DTV allocation assignment table.

VCY America supports the MST/Caucus position on most of the issues and channel assignments, but believes that some additional clarifications and important additions are required in the interests of providing a smooth migration from NTSC to DTV. In particular, VCY America supports the FCC and the MST/Caucus positions on the following critical issues:

- VCY America agrees with the FCC and the *Caucus* that initial power levels should be determined based upon service area replication ("contour matching"), although there may be several unresolved issues with respect to the relative reception radii which should be assigned to VHF and UHF facilities¹. The *Notice* requests additional input in this matter. Accordingly, VCY America hereby documents its belief that construction permits applied for prior to May 1996 be accorded equal protection with existing facilities, since they would have been filed to reflect market dynamics as opposed to

¹ For instance, VCY America does not agree with the receiver noise figures for VHF and UHF as employed either by the FCC or the *Caucus*. In addition, VCY America believes that present VHF service areas, particularly that of low-band VHF stations, are overstated because of propagation and interference factors which are extensively described in today's engineering literature but which are not reflected in the FCC curves used to calculate service contours. These considerations, however, are both secondary and divisive, and as such are amenable to conformation on a "ad hoc" basis according to the procedure outlined subsequently.

DTV speculation. Subsequent power increases should be achievable on an orderly and expeditious basis as required to improve service to an expanding market, and as required to adjust to real-world DTV reception factors.

- VCY America agrees with the *Caucus* that use of the **entire** broadcast band during the transition period is **mandatory**. This is in opposition to the position taken by the FCC, which has stated that early recovery of spectrum is a "secondary goal". All channels from two to sixty-nine must be employed in order to minimize the number of stations which may be disenfranchised based upon known and unknown technical incompatibilities. (Use of all frequencies now will facilitate repacking later, and will release the maximum contiguous spectrum for use by new services, as outlined in the *Caucus* position paper).
- VCY America encourages the FCC to "adopt a flexible policy toward channel and facility changes", as proposed by the *Caucus*. VCY America's instant response will provide an improved mechanism whereby such flexibility can be achieved.
- VCY America agrees with the FCC and the *Caucus* that the transition to digital TV be done in an orderly and non-disruptive manner, with little or no inconvenience to the public. The instant response provides an ongoing, flexible mechanism for responding to public service requirements in real time.
- VCY America agrees with the *Caucus* position that broadcasters should be able to choose which of the two channels they will be able to utilize after the 15-year simulcast period is over, subject to the limitations imposed by repacking.
- VCY America agrees that the FCC and the broadcasters should work closely with the receiver manufacturers to evolve an effective reception system. This system would include not just receiver standards, but also standards for antennas for off-the-air viewing².

As is evident by the above discussion, VCY America is responding to the *Notice* both as a licensee concerned about the effect of the transition upon its broadcast properties, and as a corporate citizen with a wealth of experience of interest to the global television community. It is VCY America's belief that the instant exhibit will assist the FCC in obtaining the insight required to determine and finalize migration parameters for the television broadcast industry as a whole.

² The antenna component of the digital receiver has not received as much attention as it perhaps is entitled to. The reception of digital signals is especially sensitive to multi-path signals and reflections due to antenna mismatches, in spite of improved "smart" receiver circuitry designed to minimize the problem.

Summary of Recommended Additions and Clarifications

As the FCC moved away from its proposal to "equalize" coverage areas in the DTV service, the issue of ongoing future improvement in those facilities which are relegated to a relatively lower power status becomes paramount. The *Notice* represents a fundamental shift away from the FCC's historical concept of a **pre-approved maximum power level** for each station in each of the three television service bands³. The power initially assigned to each facility could no longer be increased as a matter of right, vastly complicating site re-location and service improvements to expanding populations⁴.

In the *Notice*, the FCC requested comments on approaches which would "maximize" the service area for all digital TV facilities, with the goal of partially "equalizing" coverage areas. The *Notice* also requests input on methods to ensure a swift transition to DTV service, and asks, in particular, whether a three-mile transmitter siting range would be an appropriate relocation limit. In order to address these critical issues, VCY America suggests the following approach:

1. Adoption of Modified Table

VCY America suggests that the modified allotment table be adopted and employed as a starting point, along with the whole-band frequency plan as outlined by the *Caucus*. It is anticipated that small adjustments and corrections will continue to be necessary, but these should not necessarily impede the progress of transition. The resulting interference areas caused to each facility would thereby be established as a baseline. Construction permits applied for prior to May 1, 1996 should be included in this baseline.

2. Dynamic Contour Location

During the six-year DTV build cycle, it is suggested that each TV station be encouraged to seek co-located sites in order to minimize orientation and adjacent channel technical problems. As part of this effort, stations could negotiate directly with both local and other distant pertinent facilities in order to maximize the respective service areas with respect to populations pertinent to their markets, a process which was not anticipated by the "automatic" computer assignment algorithm employed by the FCC and MST. Only "real world" refinement can be used to adjust service areas according to the following principles:

³ Present limits are: Low VHF = 100 kw, High VHF = 316 kw, UHF = 5,000 kw. These limits were established based upon differential propagation.

⁴ The FCC has attempted to address this issue through such mechanisms as the assignment of a "free move" 3-mile radius, but such limits are arbitrary and do not respond to individual market dynamics.

- Move baseline interference areas to low population locations, or over bodies of water by "trading off" interference areas **without** causing a **net increase** in interference or a **net decrease** in service area, a practice pioneered by the FCC's "go-no-go" AM rules. Directional antennas, site relocation, power level adjustments and terrain shielding would be used as tools to accomplish the changes in interference and service areas.
- Extend service contours and increase power in directions which would not cause new interference. Power levels could be limited to either a set value or the highest power utilized in a given market.

In this manner, the Commission would not be burdened with numerous requests for waiver of the either the "three mile" site location limitation or of the contour protection rules. This dynamic contour adjustment would be well defined, and could be facilitated via the following procedure:

- Local negotiations among stations would assign the most appropriate parameters and site or sites for DTV and NTSC operation. NTSC site relocation would continue to be governed by existing Rules, subject to non-interference to DTV assignments.
- Individual stations in each market would negotiate directly with distant co-channel and adjacent channel NTSC and DTV licensees and permittees so as to enhance and protect their high-population geographic areas, at the expense of other less serviceable locations if necessary. Directional antennas, terrain shielding, and other standard techniques would be used which are employed today in the TV and other services. Continuing liaison would be maintained with industry groups such as NAB, MST and PBS, although none of these organizations would perform an "advise and consent" role. No net increase in interference area or populations would be anticipated.
- Such agreements would be subject to ratification by the FCC, thereby preserving the FCC's statutory regulatory authority.

3. Dynamic Channel Reassignment as Necessary

Subject to limitations imposed by ultimate repacking⁵, channels should be kept in reserve to address the possibility that some combinations of channels may not work together in the same market, such as the $n+1$ assignments.

4. Incorporation of Recently-Granted & Outstanding Construction Permits

VCY America suggests that recently-submitted (June 1996 and later) facility improvement applications continue to protect DTV contours, both as initially defined and as ultimately modified. The protection rules and ratios should be continually refined on the basis of field test feed-back.

New NTSC construction permit applications should be evaluated on a co-equal basis with DTV modifications. The FCC should encourage broadcasters to work out mutually exclusive proposals among themselves. Indeed, there will be an incentive to do so, since the extended delay inherent in the contention process would cause coverage opportunities to be lost.

5. Continuing Channel Optimization of the Allotment Table

It is recommended that the procedure already put in place by NAB and PBS, consisting of regional coordinating committees, continue to function in order to facilitate changes in channel assignments as they become practical. It is also expected that corrections to the FCC database will continue to be discovered as the tower location co-ordinate correction initiative goes forward.

Conclusion

In the opinion of VCY America and this engineer, the procedure as outlined above successfully addresses the inequalities and incompatibilities inherent in the process as outlined in the *Notice*. While it is recognized that, in the past, applications to relocate broadcast transmitters and make other facility improvements have been denied by the FCC even though a public benefit would derive therefrom, a mature and successfully operating infrastructure base existed to support this public interest tradeoff in order to protect the integrity of the allocation process.

The *Notice* is cognizant of a required optimization cycle in that "(the FCC is) proposing to allow stations to maximize or increase their service area where such an increase would

⁵ The number of double and triple moves for broadcast stations should be kept to a minimum in order that DTV transition costs not escalate to the point where it would slow down the transition to DTV.

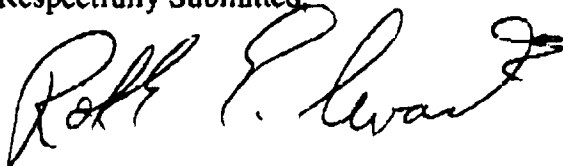
not create **additional** interference" (emphasis added). As further support of the VCY America concept, the *Notice* recognizes that "the implementation of DTV will be a dynamic process and .. mechanisms are needed to accommodate the inevitable changes that will occur. ... In this regard, (the FCC intends to provide) broadcasters with the flexibility to develop alternative allotment approaches and plans both prior to and after the our adoption of a final Table of Allotments."

The FCC also recognizes the value of voluntary negotiations: "We continue to believe that voluntary negotiations among broadcasters should be permitted as part of the DTV allotment/assignment process."

It is respectfully pointed out that a high level of integrity can be restored with respect to DTV service allocations once the build cycle is complete, and all necessary contour modifications have been made. The *Notice* anticipates doing away with the FCC's **minimum spacing requirements** for DTV, which had provided a substantial buffer for facility improvements, but does not replace it with the flexibility required to build a new structure of TV stations adapted to each market. The Unified Response by the *Caucus* urges that "The Commission should permit DTV stations to modify their stations in response to real world demands." VCY America's suggestions take the logical next step, in allowing TV facilities to agree among themselves how the respective service areas are to be configured. After the build cycle, if it is deemed in the public interest by the FCC, no further changes in interference areas would be allowed. In addition, new interference caused in areas presently receiving interference as a result of other stations would similarly be prohibited.

It is therefore VCY America's opinion that the modifications as proposed would be in the public interest; VCY America therefore respectfully requests that the instant response be considered in the final formalization of the DTV transition Rules and Regulations.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Ralph E. Evans III", with a stylized flourish at the end.

Ralph E. Evans III
on behalf of VCY America